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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,157	12/19/2000	Naoko Iwami	16869B-016600US	9696
20350 7590 12/18/2007 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER TRUONG, LAN DAI T	
			ART UNIT 2152	PAPER NUMBER
			MAIL DATE 12/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/742,157

Applicant(s)

IWAMI ET AL.

Examiner

Lan-Dai Thi Truong

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23,24 and 26-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23,24 and 26-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is response to communications: application, filed 12/19/2000; amendment filed 10/09/2007. Claims 23-24, 26-45 are pending; claims 23, 29-30 are amended; claim 25 is cancelled

2. Applicant's arguments filed 10/09/2007 have been fully considered, but they are moot in view of the new ground(s) of rejection.

Claim rejections-35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-24, 26-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicant regards as the invention i.e. "...otherwise an allocated data path includes a logical disk and I/O port not comprising a guaranteed quality of service data path while having available resources sufficient to satisfy the desired quality of service." The appropriate correction is requested. However, for the examining purpose, the Office will interpret this phrase as guarantee quality of service for only a data path that has insufficient results.

Claim rejections-35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23, 29-42, 44 are rejected under 35 U.S.C 103(a) as being un-patentable over Blumenau et al. (U.S. 6,421,711) in view of Bhat et al. (U.S. 6,279,039)

Regarding claim 23:

Blumenau discloses the invention substantially as claimed, including a storage system, comprising:

a first I/O port for connection to a communication network; at least a second I/O port separate from the first I/O port for connection to the communication network, the first and second I/O port each receiving write requests: (Blumenau discloses data access/ and written communications between storage system and the data network are implemented through “port adapters/ virtual ports” those are equivalent to “I/O ports” as claimed: abstract; figure 1, items 35, 36; column 7, lines 18-21)

an array of media for storing information, the array comprising a plurality of disk storage units organized into a plurality of logical disks: (Blumenau’s storage system includes “RAID

devices 28, 29, 30 and 31” those are equivalent to “disk storage units” as claimed, and the RAID devices are organized into a plurality of logical volumes: column 6, lines 65-67; column 7, lines 1-9, 51-64)

a plurality of data paths, each data path connectable between any one of the logical disks and any one of the I/O ports: (Blumenau discloses existing of a plurality of data paths between ports 51 and LUNs: figure 3; column 9, lines 17-45)

configuration table that identifies the logical disks for connection wit the I/O ports: (Blumenau discloses technique of creating “a Reported Luns” which shares functionality with “configuration table” as claimed for mapping between ports and “Luns” which shares functionality with “logical disks” as claimed: column 9, lines 17-42; column 12, lines 4-7; figure 5; column 28-57; column 19, lines 48-67; column 20, lines 1-17)

However Blumenau does not explicitly disclose an allocator to allocate one of the data paths based upon a data rate capability of said one data path determined from communication speed information to provide a desired quality of services

In analogous art, Bhat discloses method for selecting communication channels/or storage subsystems over communication path to ports/or devices at a specified bit rate for guaranteeing quality for multimedia data delivery service, see (abstract, lines 1-11 ; column 2, lines 20-46; claim 1; column 5, lines 10-37; column 10, lines 1-45)

wherein the allocated data path is selected in response to a request for the desired quality of service with respect to communication link over the communication network with sufficient data speed to satisfy the desired quality of service and thereby comprise a guaranteed quality of service data path (as similar to the discussions addressed above: Bhat discloses method for

selecting communication channels/or storage subsystems over communication path to ports/or devices base upon specified bit rate for guaranteeing quality for multimedia data delivery service: abstract, lines 1-11 ; column 2, lines 20-46; claim 1; column 5, lines 10-37; column 10, lines 1-45)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bhat's ideas of selecting communication channels upon a specified bit rate of data delivery service with Blumenau's system in order to be able to significantly improve effective for communication system e.g. guarantee data flows that meet reliability, see (Bhat: column 1, lines 16-19)

Blumenau- Bhat does not explicitly teach guarantee quality of service for only a data path that has insufficient results.

However, to guarantee quality of service for data path whether it has sufficient/ or insufficient results is merely as intended use that not require further inventive feature, therefore feature of guarantee quality of service for only a data path that has insufficient results does not have patentable weight

Regarding claims 29-30, 38-41, 42, 44:

Those claims are rejected under rationale of claim 23

Regarding claims 31-32:

Those claims are rejected under rationale of claim 30

Regarding claims 34-36:

In addition to rejection in claim 23, Blumenau - Bhat - Mason further discloses configuration table includes information related to data rate capability of I/O ports and logical disks: (Bhat: abstract)

Regarding claims 37 and 33:

Those claims are rejected under rationale of claim 23

Claims 24, 26-28, 43, 45 are rejected under 35 U.S.C 103(a) as being un-patentable over Blumenau- Bhat in view of Mason, Jr et al. (U.S. 6,487,562)

Regarding claims 24 and 43:

Blumenau - Bhat's discloses the invention substantially as disclosed in claims 23 and 29, but does not explicitly teach the array having different operational characteristics

In analogous art, Mason discloses technique of setting individual logical volume/ storage device with preferred "levels of performance and services" which shares functionality with "operational characteristics" as claimed, see (Mason: abstract)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Mason's ideas of setting individual logical volume/ storage device with preferred levels of performance and services into Blumenau - Bhat's system in order to increase efficiencies for storage system, see (Mason: column 1, lines 66-67; column 2, lines 1-4)

Regarding claim 26:

In addition to rejection in claim 24, Blumenau - Bhat - Mason further discloses array of media comprise hard disk drives: (figure 1, items 28, 29, 30, 31)

different operational characteristics comprise different communication speed of operation: (Mason: abstract)

Regarding claim 27:

This claim is rejected under rationale of claim 23

Regarding claims 28 and 45:

In addition to rejection in claim 24, Blumenau - Bhat - Mason further discloses quality of service based upon a guaranteed bandwidth: (Bhat: column 3, lines 37-67)

The prior arts made of records and not relied upon are considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Guaranteed data access speed of a storage system": 6279039; 5394536; 5798961; 4534011; 5890215; 583506

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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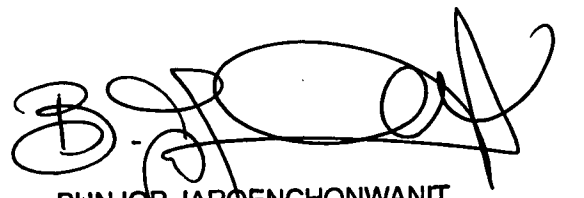
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan-Dai Thi Truong whose telephone number is 571-272-7959. The examiner can normally be reached on Monday- Friday from 8:30am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob A. Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/16/2007


BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER
12/17/7